WHAT IS CLAIMED IS:

1. A User Datagram Protocol (UDP) packet containing Transcoder/Rate Adaptor Unit (TRAU) information for transmission in an Internet Protocol (IP) based Base Station System (BSS) architecture, said UDP packet comprising:

a payload including data bits and zero or more parity bits;

TRAU in-band control information relevant to said payload and said IP based BSS architecture, said TRAU in-band control information being appended to said payload;

a sequence number parameter defining a sequence number associated with said payload, said sequence number parameter being appended to said payload and said TRAU in-band control information; and

UDP and IP header information including at least an IP address for a receiving node of said UDP packet within said IP based BSS architecture.

1   2. The UDP packet of Claim 1, further comprising:

2   frame type information associated with a frame type

3 of said payload, said frame type information being

4 appended to said payload.

1   3. The UDP packet of Claim 2, wherein said frame

2 type is selected from the group consisting of: a full

3 rate or enhanced full rate speech frame, an adaptive

4 multi-rate speech frame, a half rate speech frame an

5 operation and maintenance frame, a data frame, an

6 extended data frame, an idle speech frame and a silence

7 descriptor frame.

1   4. The UDP packet of Claim 1, wherein said TRAU

2 in-band control information does not include a Time

3 Alignment command parameter.

1   5. The UDP packet of Claim 1, wherein said UDP

2 packet does not include synchronization bits, tail bits

3 or spare bits.

1   6.   The UDP packet of Claim 1, wherein the length

2   of said UDP packet varies.

1   7.   The UDP packet of Claim 1, wherein said TRAU

2   in-band control information includes at least one of a

3   phase alignment parameter, a handover command parameter,

4   a request or indication flag parameter, an uplink frame

5   error parameter, a discontinuous transmission request

6   parameter, a frame classification parameter or a code

7   mode indication or code mode request parameter.

1   8. A telecommunications system for transmitting

2 Transcoder/Rate Adaptor Unit (TRAU) information in an

3 Internet Protocol (IP) based Base Station System (BSS)

4 architecture, said telecommunications system comprising:

5   a first node within said IP based BSS architecture

6 adapted to receive a payload, append TRAU in-band control

7 information relevant to said payload and said IP based

8 BSS architecture to said payload, append a sequence

9 number parameter defining a sequence number of said

10 payload to said payload and said TRAU in-band control

11 information and encapsulate said payload, said TRAU in-

12 band control information and said sequence number

13 parameter into a User Datagram Protocol (UDP) packet,

14 said UDP packet including UDP header information and IP

15 header information; and

16   a second node within said IP based BSS architecture

17 and connected to said first node through an IP network,

18 said second node being adapted to receive said UDP packet

19 from said first node through said IP network using said

20 UDP header information and said IP header information.

9.   The telecommunications system of Claim 8, wherein said UDP header information and IP header information includes at least an IP address associated with said second node.

10.   The telecommunications system of Claim 9, wherein said UDP header information and IP header information further includes a UDP port number associated with said second node.

11.   The telecommunications system of Claim 8, wherein said first node is a Channel Codec Unit within a Base Transceiver Station and said second node is a Transcoder/Rate Adaptor Unit within a Media Gateway.

12.   The telecommunications system of Claim 8, wherein said first node is a Transcoder/Rate Adaptor Unit within a Media Gateway and said second node is a Channel Codec Unit within a Base Transceiver Station.

13. The telecommunications system of Claim 8, wherein said UDP packet further comprises:

frame type information associated with a frame type of said payload, said frame type information being appended to said payload by said first node.

14. The telecommunications system of Claim 13, wherein said frame type is selected from the group consisting of: a full rate or enhanced full rate speech frame, an adaptive multi-rate speech frame, a half rate speech frame, an operation and maintenance frame, a data frame, an extended data frame, an idle speech frame and a silence descriptor frame.

15. The telecommunications system of Claim 8, wherein said TRAU in-band control information does not include a Time Alignment command parameter.

16. The telecommunications system of Claim 8, wherein said UDP packet does not include synchronization bits, tail bits or spare bits.

1   17.   The   telecommunications   system   of   Claim   8,

2   wherein the length of said UDP packet varies.

1   18.   The   telecommunications   system   of   Claim   8,

2   wherein said TRAU in-band control information includes at

3   least   one   of   a   phase   alignment   parameter,   a   handover

4   command   parameter,   a   request   or   indication   flag

5   parameter,   an   uplink   frame   error   parameter,   a

6   discontinuous   transmission   request   parameter,   a   frame

7   classification   parameter   or   a   code   mode   indication   or

8   code mode request parameter.

1   19.   The   telecommunications   system   of   Claim   8,

2   wherein said sequence number is a function of the maximum

3   jitter in said IP network.

1   20. A method for transmitting Transcoder/Rate

2   Adaptor Unit (TRAU) information in an Internet Protocol

3   (IP) based Base Station System (BSS) architecture, said

4   method comprising the steps of:

5   receiving a payload at a first node within said IP

6   based BSS architecture;

7   appending TRAU in-band control information relevant

8   to said payload and said IP based BSS architecture to

9   said payload by said first node;

10   appending a sequence number parameter defining a

11   sequence number of said payload to said payload and said

12   TRAU in-band control information by said first node;

13   encapsulating said payload, said TRAU in-band

14   control information and said sequence number parameter

15   into a User Datagram Protocol (UDP) packet, said UDP

16   packet including UDP header information and IP header

17   information identifying a second node within said IP

18   based BSS architecture; and

19   transmitting said UDP packet to said second node

20   through an IP network.

21. The method of Claim 20, further comprising the step of:

appending frame type information associated with a frame type of said payload to said payload by said first node.

22. The method of Claim 20, wherein said step of appending TRAU in-band control information further comprises the step of:

appending at least one of a phase alignment parameter, a handover command parameter, a request or indication flag parameter, an uplink frame error parameter, a discontinuous transmission request parameter, a frame classification parameter or a code mode indication or code mode request parameter to said payload.

1   23.   The method of Claim 20, wherein said step of

2   appending said sequence number parameter further

3   comprises the step of:

4   determining said sequence number as a function of

5   the maximum jitter in said IP network.

1   24.   The method of Claim 20, wherein said step of

2   encapsulating further comprises the step of:

3   encapsulating said payload, said TRAU in-band

4   control information and said sequence number parameter

5   into said UDP packet without including a Time Alignment

6   command parameter within said TRAU in-band control

7   information.

1   25.   The method of Claim 20, wherein said step of

2   encapsulating further comprises the step of:

3   encapsulating said payload, said TRAU in-band

4   control information and said sequence number parameter

5   into said UDP packet without including synchronization

6   bits, tail bits or spare bits within said UDP packet.